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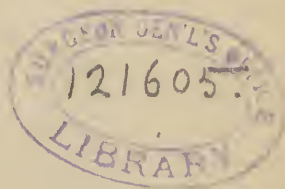
OF

# TRIPLER'S MANUAL,

FOR THE

EXAMINATION OF RECRUITS.

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WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
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HEADQUARTERS OF THE ARMY,

ADJUTANT GENERAL'S OFFICE,

WASHINGTON, *June 10, 1884.*

This epitome of TRIPLER'S MANUAL, prepared by Major CHARLES R. GREENLEAF, Surgeon U. S. Army, is published for the information and guidance of recruiting officers in the examination of applicants for enlistment into the United States Army.

BY COMMAND OF LIEUT. GEN'L SHERIDAN:

R. C. DRUM,  
*Adjutant General.*





The following epitome of TRIPLER'S MANUAL is intended for the guidance and use of Recruiting Officers in the examination of applicants for enlistment into the United States Army.

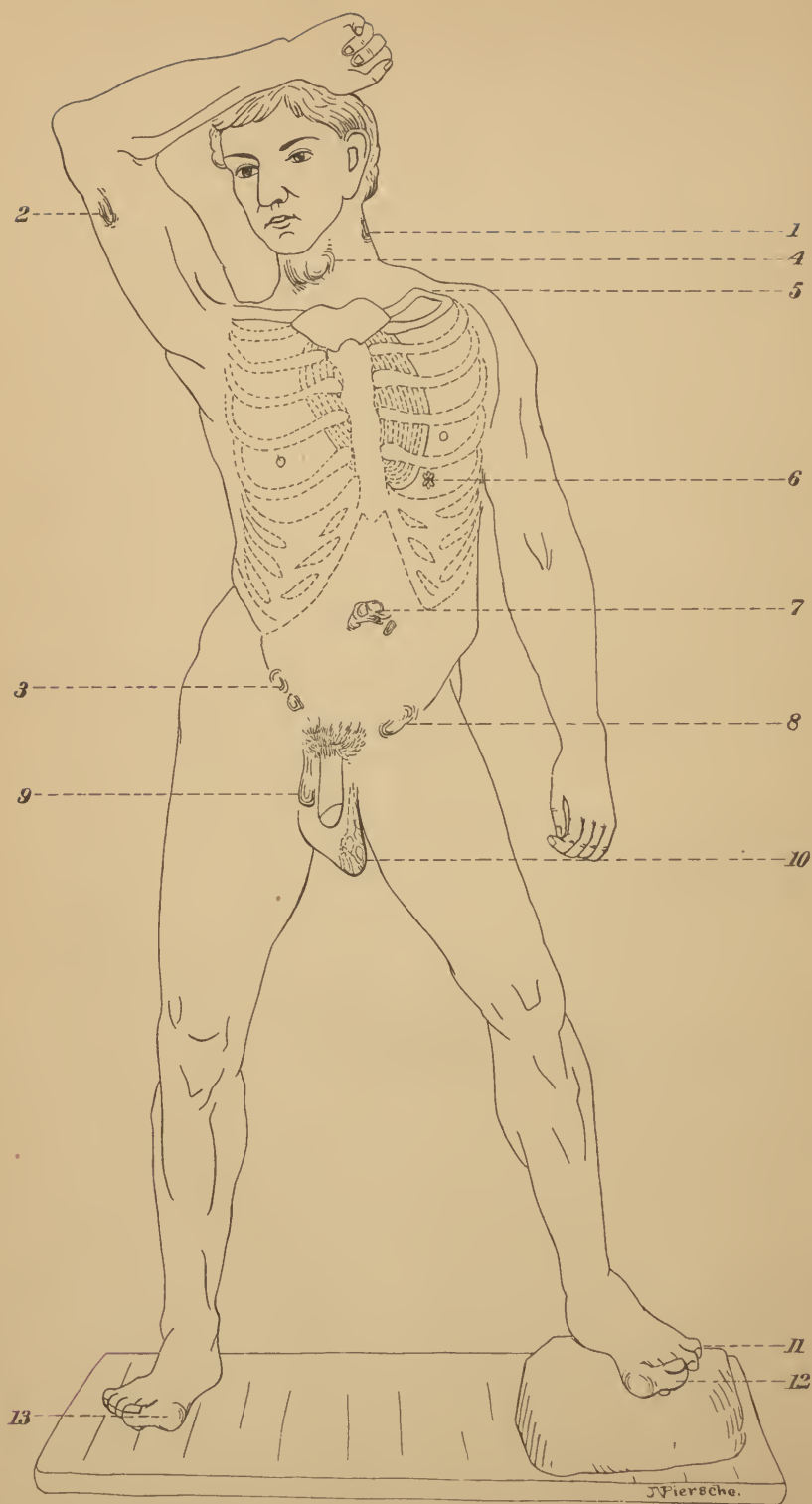
The MANUAL, written principally for the use of Medical Officers, contains much that is useless or incomprehensible to the non-professional man by reason of its technicalities, and as Recruiting Officers are frequently required to examine applicants without the assistance of a medical officer, it is believed that a more useful guide can be made by eliminating this material, and omitting all reference to the subjects of malingerers, discharges from service, etc.

Advantage has been taken of this opportunity to add such new instructions, as time and experience have shown to be necessary, since the original publication of the MANUAL.

COLUMBUS BARRACKS, OHIO,  
*June, 1884.*







## LEGEND TO FRONTISPIECE.

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- 1, 2, 3. Enlarged glands in the neck, bend of elbows, and groins in syphilis.
4. Goitre.
5. Fracture of collar bone.
6. Apex-beat of heart.
7. Umbilical hernia.
8. Inguinal hernia.
9. Scrotal hernia.
10. Varicocele.
11. Extreme flexion of toe.
12. Overlapping great toe.
13. Bunion.



## SECTION I.

“Any male person above the age of sixteen and under the age of thirty-five years, of good character and habits, effective, able-bodied, sober, free from disease, and with a competent knowledge of the English language, may be enlisted.”—A. R., par. 757.

The only disqualifications, incident to the birthplace of the recruit, are crimes enumerated in treaties, and *want of a competent knowledge of the English language*. The former is a matter to be determined by the civil courts—the latter comes under the cognizance of the recruiting officer.

The orders upon this subject direct that no applicant (tailors and band musicians excepted) shall be enlisted who cannot *speak fluently*, converse intelligibly, and fully understand the orders and instructions given in the English language; failing in this “competent knowledge,” the applicant should be rejected.

*The recruit must not be less than sixteen nor more than thirty-five years of age.*

This regulation does not extend to soldiers who may re-enlist, or who have served faithfully a previous enlistment in the Army. \*

“Minors under eighteen years will not be enlisted except for musicians, \* \* \* and then only under authority from the Superintendent.”—A. R., par. 762.

A person under twenty-one years of age cannot enlist without the consent of his parent or guardian, if he have either.

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\* Service in the volunteer force in the rebellion is not held a “previous enlistment” for this purpose.

But if the minor should offer such written consent, the question then presents itself, whether so young a person possesses the vigor and physical development necessary for the performance of *all* the duties of a soldier.

When young men of this age are well made and have a true aptitude for the profession of arms, they are capable of making excellent soldiers. But it must not be lost sight of that there are few at this age fit for this profession. The body has not yet attained the necessary strength, and the organs have not arrived at that stage of vigor which will permit them to pass rapidly, without a careful transition, from a state of repose to one of violent exercise.

The recruiting officer in deciding this question will be obliged to apply the same rules to a minor that he would to an adult, accepting him only when satisfied, so far as his inspection is concerned, that no evidences of physical defects have presented themselves. If he has any doubt as to age, he should reject.—(See A. R., pars. 760 and 761.)

The minimum *height* of a recruit is fixed by the Recruiting Regulations at five feet four inches for both the mounted and the general service, although recruiting officers are allowed to exercise their discretion as to the enlistment of desirable recruits (such as band musicians, school teachers, tailors, etc.) who may fall not more than one-fourth of an inch below the minimum standard of height: the *maximum* height for the cavalry service is five feet ten inches.

The *weight* of recruits for infantry and artillery is not less than 120 pounds, nor more than 190 pounds: for cavalry and light artillery, not to exceed 165 pounds.

The standards of height and weight are, however, subject to change, instructions to that effect being issued from the Adjutant General's office "from time to time as the requirements of the service may dictate."—(See A. R., par. 758.)



*The recruit must be effective, able-bodied, sober, free from disease and of good character and habits.*

“Success in obtaining recruits depends much on the activity and *personal attention* of recruiting officers. They must not intrust to enlisted men the duties for which they alone are responsible, but must use every care to prevent the imposition of minors and bad men upon the service.”—A. R., par. 755.

“In passing a recruit, the examining officer is to examine him stripped; to see that he has the free use of his limbs; that his chest is ample; that his hearing, vision, and speech are perfect; that he has no tumors or ulcerated or extensively cicatrized legs; no rupture or chronic cutaneous affection; that he has not received any contusion or wound of the head that may impair his faculties; that he is not a drunkard; is not subject to convulsions; and has no infectious or other disorder that may unfit him for military service.”—A. R., par. 785.

The examination herein required must, in the absence of a medical officer, be made by the recruiting officer in person.—A. R., par. 784.

The spirit as well as the letter of a regulation will always be carried out by the zealous officer. It is obvious that there are many causes of disqualification not enumerated in the regulations above cited. That officer who should confine his examination to the defects recited in the text, would but very imperfectly perform his duty. The intention of the regulation is to exclude from the rolls all who are in any way, physically or mentally, incapable of performing the duties of a soldier; and the examining officer is required to certify that no such disqualification exists when he passes the man.

Whoever is charged with the recruiting of troops should endeavor, above all things, to judge from the eyes, from the whole expression of the countenance, from the conformation of the limbs, of those who are capable of making the best soldiers.

There are as certain and as well-understood indications for judging of the soldierly qualities of men as there are for ascertaining the value of a horse or a hunting dog. The young soldier should have lively eyes, the head erect, the chest large, the shoulders square, a strong hand, long arms, the belly lank, a free and easy carriage, the legs and feet less bulky than muscular.

The ineffective man weakens the ranks he was intended to strengthen. He serves but to fill the hospitals, encumber the trains upon a march, consume supplies, and call for the services of the effective and able-bodied to minister to his infirmities when his own services are wanted in the field. Let the officer, then, bear in mind that it is the number of *bayonets in the field*, and not the number of *names upon the rolls*, that determines the strength of an army, and he will be less anxious to pass numbers of recruits, than that those whom he shall have certified to be free from defects shall not compromise his professional reputation by their failure in the hour of trial.

We must, however, admit that in some instances the most careful and experienced observers will be deceived. The arts of the dissembler *may* cover up important defects for a time. He has every advantage, and he will unscrupulously avail himself of his knowledge. We meet with so many cases in which the baldest falsehoods are so pertinaciously asseverated in order to carry out a premeditated imposition, that, harsh as it may appear, we must caution the recruiting officer against relying at all upon the declaration of a recruit, when any other means of arriving at what we wish to ascertain can be commanded.

*All lank, slight, puny men, with contracted figures, whose development is, as it were, arrested, should be set aside.*

It is evident such men cannot bear the fatigues of war. It is to effectiveness in war that we are always to look, for "war

is the normal state of the soldier; peace is for him the temporary and exceptional condition." Ever since the addition of Texas, New Mexico, and California to the Territory of the United States, our soldiers have been constantly engaged in war of some sort. The privation and exposure necessarily incident to the occupation of new and uncultivated countries, and the harassing wars constantly carried on with the savage tribes that infest them, demand a higher standard of physical strength in a soldier than would be required in any war we could be engaged in with a civilized enemy. The diminutive, half-developed recruit is totally unfit for the service our soldiers have to perform.

*"Men having the appearance of being hard drinkers will be rejected, though they may not at the time be intoxicated."*  
—A. R., par. 757.

It is difficult oftentimes to detect the habitual drunkard. We must rely, to some extent, upon the man himself for information upon this point. Men frequently present themselves who exhibit evident signs of a recent debauch. It is frequently impossible to say whether this is the habit of their lives or merely a temporary lapse, induced, perhaps, by misfortune, disappointment, or youthful folly. To reject summarily in such a case would frequently lose to the service a good and efficient soldier. *It is positively enjoined by the regulations that every man shall be sober when enlisted.* In cases, then, where there is room for doubt a suspension of a final decision should be resorted to for a sufficient length of time to enable the man to recover from the effects of a mere temporary debauch.\*

But when the man has long indulged in habits of intemperance it is almost sure to be indicated by persistent redness

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\* It is a good rule, followed by some officers, to examine no man on whom the smell of liquor can be detected at the time.

of the eyes, offensive breath, tremulousness of the hands, attenuation of the muscles, particularly of the lower extremities, sluggishness of the intellect, and frequently an eruption of rum blossoms on the face and purple blotches upon the legs. Men presenting such signs of intemperance as these should be rejected.

In addition to the personal observation of the recruiting officer as to these indications of intemperate habits, the recruit should always be made to say distinctly whether he is a drunkard or not; and his answer should be recorded on the spot (in the manner to be hereafter indicated), for the purpose of accurate reference, should a drunkard succeed in imposing himself upon the service notwithstanding the careful observance of all the requisite precautions upon the part of the recruiting officer.

*The man should have, also, the free use of all his limbs.*

To enable the inspecting officer to inform himself thoroughly on this point he should carefully instruct the recruiting sergeant in the regular mode of performing the various motions required, and the recruit should be directed by the sergeant to imitate him in all the motions. The recruiting officer will then be at liberty to observe the motions of the recruit both in front and rear while the inspection is progressing.

*The chest should be ample.*

The circumference of the chest is measured by passing the tape around it immediately at the point of the shoulder blade, the arms hanging down. The tape will then be found to fall *generally below* the nipple. In this way the mobility of the chest will be found usually to be two and one-half inches; it seldom exceeds three; once only have we found it four.

The lowest limit of chest circumference, measured as indicated, should be fixed at thirty-one inches, with a mobility of two inches in a man of five feet six inches. A less chest mobility disqualifies the recruit.

*Re-enlistments.*

The recruiting officer is permitted to accept soldiers desiring to re-enlist, and who present themselves for that purpose within the prescribed limit, "notwithstanding they may have some physical disqualification which would cause their rejection as recruits, *provided* they have no serious defect which would probably prevent the discharge of their duties as soldiers."

"In all such cases the defects and the fact that they existed prior to re-enlistment will be noted on the soldier's enlistment papers."

In modifying its requirements for enlistment in this particular, it is the intention of the War Department to provide for the continuance in service of such faithful soldiers as have incurred disabilities during prior enlistments, which either do not, or probably will not, unfit them for duty in the future; as, for example, hernia, which is kept in place by wearing a truss; piles; varicose veins; certain defects of vision, as near or far sight; the loss of certain fingers and toes; mutilations by gunshot or other wounds, etc.

"Serious defects" may be defined as those which cause either an incapacity for duty at present or are likely to do so in the future; such as total blindness of the right eye; amputation of an entire member, hand or foot, or any constitutional disease, as syphilis, etc.

## MODE OF EXAMINING A RECRUIT.

The room in which the examination is conducted should be well lighted, and large enough to admit of the men being walked about freely, that every organ concerned in locomotion may be subjected to inspection. For obvious reasons, none others than they whose presence is absolutely required should be admitted to the room.

The person of the recruit should be washed *clean* before he is presented for inspection. It is impossible to ascertain the existence of certain defects that *absolutely disqualify*, when concealed, as they effectually may be, and sometimes are, by incrustations of filth a month old.

Certain defects can be ascertained only by questioning the man himself; and in order to avoid all subsequent evasions, the answers to these questions should be recorded on the spot. A method of effecting this object, as well as of making it sure that no important part shall escape inspection through any slip of the memory, is found in a printed form, furnished by the Adjutant General of the Army, upon which the observations of the inspecting officer are to be recorded as they are made.

These questions, and any others necessary to develop his fitness for the duties of a soldier, should be asked, and the man's answers recorded before he is stripped.

He is then to be divested of *all* his clothing, and the examination proceeded with systematically, in the order of regions, as indicated in the "Form."

It should be understood that the questions in this Form are intended simply as a guide for a careful and searching inquiry into the physical history of the applicant for enlistment; if his replies indicate the existence of any infirmity or defect, the examination should be closely followed up, in order that the most complete information may be elicited.

He who will be satisfied with a simple negative or affirmative reply to the queries propounded in the Form but illy discharges the duty he is called upon to perform.

The answer to the second question should include a statement of the occurrence of the diseases of childhood, such as measles, scarlet fever, etc.

The officer should state whether the applicant, if a foreigner, has a "competent knowledge of the English language," *as*



*defined on page 9*; and express his opinion upon the intelligence of the applicant as compared with the average soldier, and of his figure and general appearance.

The officer is to note every peculiarity or deviation from the normal standard in each particular region. For example: if the man has received at any time a blow upon the head with a resulting scar or slight depression, let it be noted thus: "Scar and slight depression upon the right side of the head."

Scars upon any part of the person should be noted, and the cause assigned by the man recorded. It is not uncommon to find marks of free cupping upon the chests of Germans, without there being any indication of disease. These, however, should be noted.

If, upon inspection, the man be found to have a varicocele, though not sufficient to disqualify, let it be noted under the proper head; and so of hemorrhoids or any other affection. The vaccine scar and its position should be noted.

By this means an accurate description of the whole person is obtained sufficient to settle questions of identity, should such be subsequently raised; and if there be any defects about which a difference of opinion may exist, the fact that such defects were not overlooked by the first inspecting officer will be apparent.

It will frequently happen that an "absolute disqualification" will be discovered before completing the examination. Such a defect may be detected at any stage of the inspection. In such cases, it will of course be unnecessary to proceed any further.

Before recruits leave the rendezvous for the depot they should be carefully re-examined, and a statement made on the Form, setting forth the fact, and the existence of any defect which may have been discovered or contracted since the enlistment.

The Form when filled up should be sent with the recruit to the depot.

## FORM FOR THE PHYSICAL EXAMINATION OF A RECRUIT.

Name: \_\_\_\_\_; Age: \_\_\_\_\_; Occupation: \_\_\_\_\_;  
 Birthplace: \_\_\_\_\_; Residence: \_\_\_\_\_; Height: \* \_\_\_\_\_; Weight: † \_\_\_\_\_;  
 Chest measurement: \_\_\_\_\_; Expiration: \_\_\_\_\_; Inspiration: \_\_\_\_\_;  
 Nationality of father: \_\_\_\_\_; Of mother: \_\_\_\_\_.

Have you applied for enlistment at any other rendezvous, and if so, where? \_\_\_\_\_

What sickness have you had, and at what age? \_\_\_\_\_

Are both parents living? \_\_\_\_\_

If either has died, state cause: \_\_\_\_\_

If brother or sister has died, state cause: \_\_\_\_\_

Have you given up any occupation on account of your health or habits? \_\_\_\_\_

Are you subject to dizziness? \_\_\_\_\_; to severe headache? \_\_\_\_\_;  
 to pain in the breast? \_\_\_\_\_; to fluttering of the heart? \_\_\_\_\_; to  
 shortness of breath? \_\_\_\_\_; to colds in the head? \_\_\_\_\_; to coughs?  
 \_\_\_\_\_; to diarrhœa? \_\_\_\_\_; to piles? \_\_\_\_\_; to rheumatism? \_\_\_\_\_.

Do you believe you are sound and well now? \_\_\_\_\_

Have you had sore eyes? \_\_\_\_\_

Have you had running from either ear? \_\_\_\_\_

Have you had fits? If so, how frequently? \_\_\_\_\_

Do you have any difficulty in making or holding your water? \_\_\_\_\_

Have you had stricture? \_\_\_\_\_

Have you had gonorrhœa, and when? \_\_\_\_\_

Have you had a sore of any kind upon your penis, and when? \_\_\_\_\_

Have you had any swelling about or of your testicles? \_\_\_\_\_

Have you had a boil near the anus (fistula)? \_\_\_\_\_

Have you been ruptured? \_\_\_\_\_

Do you drink intoxicating liquors? If so, to what extent? \_\_\_\_\_

Have you had the "horrors," and when? \_\_\_\_\_

Have you been hurt upon the head? Answer fully: \_\_\_\_\_

Have you had a sprain? \_\_\_\_\_; a stiff joint? \_\_\_\_\_; a bone or joint  
 out of place? \_\_\_\_\_; a bone broken? \_\_\_\_\_. Are you subject to  
 sore feet? \_\_\_\_\_.

Mention carefully any other injuries or any surgical operations you may  
 have had in any part of your body, especially burns, cuts, severe  
 bruises, etc.: \_\_\_\_\_

\* In bare feet.

† Note weight, stripped, unless rejected for some absolute disqualification in preliminary examination.



*Describe in detail any deviation from the normal in the regions enumerated.*

WHEN STRIPPED examine carefully the Head; Ears; Eyes (*including color blindness and astigmatism\**); Nose; Mouth (especially teeth, hard palate, and tonsils); Neck (especially enlarged glands); Chest: <sup>a</sup>*shape* (*flat or pigeon-breasted\**), <sup>b</sup>*resonance*,\* <sup>c</sup>*character of respiration*;\* Heart: <sup>a</sup>*sounds*,\* <sup>b</sup>*impulse\** (*position and force*), <sup>c</sup>*action\** (*as to regularity*); Spine; Abdomen (especially for hernia and enlarged glands in the groin); Genito-urinary apparatus; Anus (especially for fistula); Upper extremities (especially for enlarged glands at the elbows); Lower extremities; Skin.

Knowledge of the English language : -----  
 Previous service (U. S. or foreign): -----  
 Comparative intelligence : -----  
 Figure and general appearance : -----  
 Marks (Note 1): -----

I certify that I have asked the foregoing questions, and have recorded the answers as given to me, and that I have personally examined the above-named recruit.

Place : -----

Date : -----

-----

*Inspecting Officer.*

NOTE 1. Record enough natural or artificial marks for identification, but do not encumber the Form with trivial markings.

NOTE 2. This paper, with defects discovered at dépôt noted and signed by the medical officer, to accompany the proceedings of Boards of Inspection, in the case of rejected recruits.

\* Especially for a medical examiner.

[ Indorsement on the back of the Form. ]

Examination of

Recruit \_\_\_\_\_

enlisted at \_\_\_\_\_

BY \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
*Recruiting Officer.*

This Recruit has been re-examined before leaving the rendezvous for the dépôt and found to be—

\_\_\_\_\_  
\_\_\_\_\_  
*Recruiting Officer.*

REMARKS OF THE MEDICAL OFFICER  
AT THE DÉPÔT.

\_\_\_\_\_  
*Surgeon, U. S. A.*

## ORDER OF EXAMINATION.

Let the recruit take the position of a soldier in the best-lighted part of the room ; then examine him in the following order after the methods elsewhere set forth :

1. Inspect general physique, skin, scalp and cranium, ears, eyes, nose, mouth, face, neck, and chest.

2. The arms should be extended above the head, the backs of the hands being together, and the applicant required to cough vigorously ;—any form of rupture may now be discovered by the hand and eye.

3. The man should be required to take a long step forward with the right foot, and then bend the knee, the hands remaining extended above the head ; this exposes the genital organs, and varicocele or other defects in the scrotum may be recognized by the hand.

4. Arms down, and the man required to separate the buttocks with his hands, at the same time bending forward ; this exposes the anus.

5. Examine the heart.\*

6. The elbows should be brought firmly to the sides of the body, and the fore arms extended to the front, palms of the hands uppermost ; extend and flex each finger separately ; bring the points of the thumbs to the base of the little fingers ; close the hands, with the thumb covering the fingers ; extend and flex the hands on the wrists ; rotate the hands so that the finger nails will first be up and then down ; move the hand from side to side ; flex the fore arms on the arms *sharply*, striking the shoulders with the fists ; place the thumbs on the points of the shoulders, raise and lower the arms, bringing them sharply to the side at each motion ; † let the arms hang

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\* Especially for Medical Examiner.

† It may be here observed that in a few instances the recruit cannot touch his shoulders with his fingers, and still the most rigid examination could detect no imperfection in any of the joints of that extremity. When this difficulty is perceived, a more cautious inspection of all the joints of the limb must be instituted, as the probabilities are that some defect exists. The elbow or wrist will *generally* be found to be the failing joint.

loosely by the side; swing the right arm in a circle rapidly from the shoulder, first to the front and then to the rear; swing the left arm in the same manner; extend the arms fully to the front, keeping the palms of the hands together and thumbs up, and observe the elbows carefully; carry the arms quickly back as far as possible, keeping the thumbs up, and at the same time raise the body on the toes.

7. Extend the right leg, resting the heel on the floor; move all the toes; raise the heel from the floor, move the foot up and down, then from side to side; present the sole of the foot for inspection; bend the knee and strike the shoulder with it, bending forward at the same time; throw the leg out to the side as high as possible, keeping the body squarely to the front; take the military position "to kneel firing"; get down on both knees and jump up smartly; *squat* sharply several times in succession; hop, the length of the room, on the toes, of, first one foot, and then the other; take a standing jump as far as possible; jump up and strike the buttocks with the heels.

8. Examine the lungs.\*

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\* Especially for Medical Examiner.

## SECTION II.

### THE SKIN.

A careful examination of *the skin* should be made, first, to detect the presence of vermin, and second, any skin disease.

The favorite haunt for *vermin* is in the hair upon the head and about the genital organs; they are also to be found on other parts of the body; the "nits," or eggs, may be seen as little black bodies attached to the hair, generally near the skin.

*Itch* may be suspected if the body presents evidences of having been constantly scratched, and the spaces between the fingers are the seat of an eruption.

These, together with any skin eruptions which are manifestly chronic or disgusting in appearance, are causes for rejection.

A crop of pimples on the face, breast and back, between the shoulders, is very common in young men, and being entirely innocent, should not disqualify a recruit otherwise desirable.

### CHRONIC ULCERS.

Ulcerated or extensively cicatrized legs are enumerated among the causes of absolute rejection in the Medical Regulations, and "ulcerated legs" in the Recruiting Regulations. The intention of these provisions is to exclude men who, from intemperance, syphilis, &c., have been the subjects of chronic ulcerations of the lower extremities. In these men the slightest irritation is sufficient to reproduce the ulcers, and they are, of course, utterly unfit for soldiers. To these we now add scars *large, irregularly shaped*, with *discoloration* of the integument, or with *adhesion* to the *bones*. Scars non-adherent, white and smooth, resulting from an incised or lacerated wound, or a burn, not involving lesion of the subjacent organs, are *not*

causes for rejection. We may say, *generally*, that the ulcerations demanding rejection are those combined with great loss of substance, with withering of the limb, or any other signs of a constitutional taint.

#### TATTOOING,

When representing indecent or obscene figures, is a disqualification, upon the ground that a man whose moral nature is so degraded as to submit to such indelible marking, is not fit to be a soldier.

#### SCROFULA.

Subjects of this form of disease cannot resist the influence of cold, humidity, defective nourishment, impure air, etc., in a sufficient degree to enable them to endure the usual vicissitudes of a soldier's life.

When we find narrow chests, flabby muscles, a dull, lifeless complexion, languid circulation, with chronic tumefaction or ulceration of the glands, sometimes like a string of beads around the neck under the jaws, or in the course of the large vessels, the man should be set aside as unfit for the service.

#### CONSTITUTIONAL SYPHILIS.

In the detection of this disease *no single sign* will be sufficient, but the presence of *two or more* should determine the matter, especially if the man admits having had a sore on any part of his penis, or a chancre on any other part of his body, *no matter how small*, nor at *however distant a period of time*. One of the earliest and most important signs is an *enlargement of the glands* (1) at the back of the neck, (2) on the inside of the arm just above the elbow, and (3) in the groins. The first may be found by grasping firmly, between the thumb and forefinger, the back of the neck just below the hair, and sliding the hand down from thence to the base of the neck; if the glands are enlarged they will be felt under the fingers as hard bodies, slippery and movable, and shaped like an ordinary

almond. (2) Bend the fore arm at right angles with the arm and grasp it from behind, between the thumb and fore finger, just above the elbow, keeping the thumb on the *outside*; the right hand being used for the examination of the left arm, and vice versa—by pressing deeply with the fingers, and, so to speak, *rolling* the flesh of the arm under them, the gland, if enlarged, will be plainly felt, as in the neck. (3) Rub the fingers, making at the same time considerable pressure, over and in the crease between the abdomen and the thigh (groin); the glands, if enlarged, will be felt as in the preceding cases.

Eruptions on *the skin* exist in any part of the body, are of a yellowish-brown or copper color, generally circular, looking like stains, and are *without any pain, itching*, or surrounding redness; they should be looked for particularly on the forehead and chest; scaly eruptions upon the palms of the hands are also indicative of the disease.

The *hair* thins out, or may fall off in patches—(alopecia).

The *nose* and *mouth*, especially the latter, are the seat of peculiar ulcerations: in the nose, they appear about the inside of the nostrils; in the mouth, they will be seen on the back part of the roof, on the side of the cheek, or farther back in the throat on the tonsils and the sides of the palate; the tongue also is often ulcerated and deeply cracked. The bones forming the bridge of the nose are often flattened or sunken as a result of ulcerations of the softer parts underneath.

The *shin bones* are the seat of lumps (nodes), easily felt by running the fingers along the edge of the bone; these lumps are generally on both shins, and are apt to be painful at night.

Warts, and excrescences about *the anus* between the buttocks, or on the scrotum (mucous tubercles and vegetations), will be seen at once by separating the buttocks while the man bends forward: “they appear as flat, slightly elevated papules, about half an inch in diameter, and covered with a slimy, fetid exudation;” they are often ulcerated, and may run together.

The scars left by buboes which have been opened "are no indication of constitutional syphilis."

It should be borne in mind that *symmetry* in the appearance of the external signs of syphilis is peculiar to the disease; thus, one tonsil being sore, the other will probably be sore also—a blotch on the skin of one side of the body may likely have its fellow on the other side.

### THE HEAD.

The *scalp* should be examined very carefully, by running the fingers through the hair, for depressions in the skull; if any are found that are deep and abrupt in character, especially if covered by a scar, the applicant should be rejected; so also if any disease of the scalp is discovered.

*Monstrosity* in size of head, and considerable deformities, the consequences of fracture, should also reject.

### THE EARS.

*Tumors or growths* in the passage to the internal ear may be at once discovered and are causes for rejection.

*The discharge of "matter"* from the ear is generally an evidence of a diseased condition of the parts within, which is very likely to lead to permanent deafness, and is therefore a cause for rejection.

*Deafness of either ear* constitutes an absolute cause of rejection.

The applicant should be placed about twelve feet from, and with his back toward, the recruiting officer, and be required to repeat certain words, addressed to him in a low tone of voice; his failure to respond will speedily show this defect.

Deafness of one ear is very likely to be caused by an accumulation of hardened wax, upon the removal of which hearing is restored.

An otherwise desirable recruit may be required to have his ears thoroughly cleansed, final action being deferred until the result of this operation is known.



## THE FACE.

Great deformities of the face—large, livid, hairy, unsightly spots, loss of substance of the cheeks, are so many reasons for rejection; as they are calculated to excite aversion and disgust in others, they may prove prejudicial to the service by provoking discontent in the quarters, and by exposing the sufferer to cruel and irritating sarcasms and jests that too often end in fatal quarrels.

## THE EYES.

The following are causes for absolute rejection :

*Loss of either eye.*

*Chronic inflammation of the lids*, which may be known by their being red and swollen, with collections of more or less dried matter on the edges between and around the lashes; the ball of the eye will also be "bloodshot."

*Inability to count WITH FACILITY*, at *twenty feet distance*, the black spots on the test cards. This examination requires the greatest care and patience on the part of the recruiting officer; it is made with test cards, "ten in number, with black spots arranged like those on playing cards, and ranging from 1 to 10 on each card. The spots are circular, and each four-tenths of an inch in diameter." "*The recruit must be able to count them with facility at twenty feet distance.* Each dot presents the same appearance, when seen by the normal eye at this distance, as a black centre three feet in diameter on a white ground at six hundred yards' distance.

"To use these cards, measure off a line twenty feet long on the floor of a well-lighted room. Stand the recruit with his toes at one extremity of the line. Let an assistant, holding the pack of cards in his hands, stand with his toes at the other extremity of the line and expose successively the faces of two or three of the cards. The recruit must be able to state

promptly the number of dots on each. This examination must be made with each eye separately. The examination may be varied by showing to the recruit one of the higher numbers, such as the nine or ten card, and covering up a part of its face with another card so as to expose one or more spots at a time.”—(Directions from S. G. O.)

The “assistant” in this case should be the recruiting officer, and the sergeant should stand behind the recruit, covering one eye completely *with a card*; it is a custom to cover the eye with the *hand*; this is very objectionable, because, unconsciously, more or less pressure is made on the organ, and such a sense of discomfort, as well as disorder in the circulation, produced that clearness of vision when the eye is uncovered is much interfered with; or, a designing man may take advantage of an opening between the fingers of the hand placed over his eye, to see and read the cards, while the other eye may be totally defective.

The applicant should stand *with his face to the light*, because in this position the iris is contracted and the pupil becomes so small that any defect of the cornea (or glass of the eye), which may be situated directly in front of the pupil, will so interfere with vision as to be discovered; if the light falls from behind the applicant, or he is in shadow, the iris is relaxed and the pupil dilates sufficiently to allow the rays of light to enter the eyes by the side of a defect, and vision *seems* to be perfect, while in reality it may be very imperfect.

There is often considerable hesitation on the part of the applicant in counting the spots, which may be due to ignorance, and some of the low numbers should be presented to him; it is better to begin the examination with the right eye, and the spots on at least six cards should be counted without hesitation before it can be considered satisfactory; failing in this, the applicant should be rejected.

*Prominence of the eyeballs* to such an extent as to prevent the lids from closing—(exophthalmos).

*Drooping of the upper lids* over the eyeballs, with inability to raise them—(ptosis).

*Adhesion of the lids* to the eyeballs.

*Scalding of the cheeks* from tears, indicating closure of the tear-duct.

*Cross-eye*, or squint of the right eye, if permanent or well marked (strabismus), are all subjects for disqualification.

The following defects, if discovered, should be noted on the enlistment papers of the recruit by the recruiting officer, and the question of rejection left to the decision of the surgeon at the depot.

*A film across the white of the eye*, pyramidal in shape, the base resting on or near the "sight"—(pterygium).

*Milky opacities* on the cornea—(leucoma).

*Wavering and divergence*, generally outward, of one or both eyes when the applicant is required to look steadily at an object, say the hand or fingers, held at a distance of six or eight inches from the face—(asthenopia).

A rotary or oscillating movement of one or both eyes when looking at an object at the ordinary visual distance (nystagmus); both eyes are generally affected, and the nervous character of the disease is shown by the increased motion during the examination.

*Double vision*, or that condition of sight in which two images instead of one are seen when the applicant is required to look steadily at an object—(diplopia).

#### THE NOSE.

*Loss of the nose* disqualifies the recruit not only as an indication of a constitutional disease, but also on account of the modification of the voice consequent on the lesion, frequently to a degree that renders the man unintelligible.

“When the loss of the nose is due to accident, the same difficulty as to the voice presents itself.”

*Ill-smelling discharge* from the nose either through the nostril or the mouth, or very offensive breath, which is indicative of a chronic disease called “*ozœna*,” “demands the rejection of the subject.” A chronic swelling of the cartilage of the nose which stops up either nostril, or permanent closure of the nostril from any cause, and tumors inside the nose (*polypi*) are causes for rejection. The examining officer must, however, be careful not to mistake slight irregularities in the septum of the nose, which are not uncommon, for a polypus.

### THE MOUTH.

The following defects of these parts are disqualifications:

*Hare lip, simple, compound, or complicated.*

*Loss of the whole or part of either lip.*

*Unsightly mutilation of the lips from wounds, burns, or disease.*

*Loss of the whole or part of either jaw-bone.*

*Deformities of either jaw-bone interfering with mastication or speech.*

*Inability to open the jaws widely.*

*Loss of teeth.*—If the front teeth have been lost by accident we should not reject the man, provided the double teeth or a sufficient number of them remain sound in both jaws. But if the front teeth have been lost from decay, and the double teeth are unsound to any extent, the man should be rejected.

If the front teeth remain and the double teeth are gone, rejection is again demanded, because the man is evidently incapable of properly masticating the food he must subsist upon in the field.

It is not uncommon to find a loss of the natural teeth supplied by artificial ones fastened to a rubber plate. The fact

that such a plate is worn should be noted on the enlistment papers, but the artificial substitutes cannot be considered as taking the place of the natural teeth, or removing the disability on this account for military service.

*Enlargement or shrinkage of the tongue.*

*Mutilation or the partial or total loss of the tongue.*

*Growth of the tongue to the sides of the mouth.*

*Stammering or stuttering, if at all considerable.*

*A growth of the cheeks to the sides of the jaws, impeding their free motion.*

*Fissures of the hard palate.*

*Perforation of the hard palate*, an occasional sequel of syphilis, is objectionable on account of the modification produced by it in the voice and the fact that through the perforation fluids are allowed to pass into the nose from the mouth.

*Chronic enlargement of the tonsils sufficient to impede swallowing or speech.*—To obtain a good view of the tonsils and back parts of the mouth and throat, the recruit should open his mouth as widely as possible and pronounce the word: “Ah! h-h,” in a prolonged breath—the arches of the palate and the soft palate will by this manœuvre be raised, and an unobstructed view of the parts obtained.

*Loss of voice, or a manifest alteration of it.*

## THE NECK.

*Goitre*—a tumor situated at the base of and across the neck, just below “Adam’s apple,” if large enough to interfere with breathing, or the hooking of the collar of the coat, or if recent or growing.

*The violet colored, adherent scars of scrofulous ulcerations*, in this region, are causes for rejection.

*Openings in the wind-pipe*, or “Adam’s apple,” should also reject.

## THE CHEST.

The applicant should be carefully questioned as to his own history and that of his family: if he admits having had severe and long-continued cough, and night sweats, and states that he has lost any members of his family from consumption, there is good ground for suspecting him to have at least a *tendency* to the disease, more especially if he is of spare habit, with a flat chest, or is "chicken breasted;" in these latter cases the chest is "seldom strong enough or roomy enough to permit the lungs to have free play in them."

When the chest is narrow and elongated, the countenance pale, or with merely a brilliant point upon the cheeks, the voice husky, or articulation short, quick, interrupted almost every moment for want of breath, the skin presenting a fineness of texture, a whiteness or straw-colored tint, with abnormal dryness—when the limbs, more or less long, are thin, furnished with soft and emaciated muscles—these characters suffice to announce a weakly constitution and a manifest disposition to consumption.

It is sufficient to require rejection that the chest should be ill-formed, that its structure should appear to be too weak, and that the other parts of the organism should be stamped with signs "of debility and suffering."

It is true we run the risk of rejecting men who may afterwards become very robust, and who, by a long and successful life, may contradict the opinion we may have pronounced in their cases. But \* \* \* one will be astonished at the number of men who, received because no determinate lesion of the chest was recognized when they were inspected, succumb afterward with consumption, or whom it was necessary to send back to their families with broken health after their strength had been exhausted. This is the plague of the army. I have already said that a feeble man left at home may become strong; but send him into the ranks and he perishes almost



certainly. Betwixt these two rocks neither the physician, the officer, nor the magistrate can hesitate an instant.

*Bleeding from the lungs;*

*Badly united fractures of the ribs, leaving a sharp angle at the point of injury;*

*"Wheezing" breathing (asthma),* are all causes for rejection.

### THE HEART.

The only lesion of this organ discoverable by a non-professional man is enlargement (hypertrophy), which may be suspected by a *marked deviation* of the "apex beat" of the heart from its proper place, about two inches below the left nipple and about one inch to its right, between the fifth and sixth ribs. (See plate.)

It is not always easy to *see* the impulse of the heart against the chest walls, and the recruiting officer must therefore *feel* for it: by placing the ends of two fingers in the interspace of the ribs just below the nipple, and pressing backward with some force, it can be felt even in very fat men, or in those whose lung tissue may accidentally cover it thickly.

The deviation in enlargement is generally downward and to the left, and when to the extent of about two inches from the normal point, if accompanied by powerful action, disease may be suspected and the applicant rejected.

There are two conditions likely to mislead, viz: extreme "nervousness" from fright or embarrassment, and an irregular action caused by the excessive use of tobacco or coffee, or both; the hurried, sharply accentuated action of the heart in the former, and its irregular action in the latter case, can hardly, with the exercise of due care, be mistaken for the powerful rythmical action in enlargement, in which condition the blood-vessels of the head and neck will often be found distended and beating with considerable violence.

## THE ABDOMEN.

There are three easily recognized forms of *rupture* (hernia), viz: inguinal, scrotal, and umbilical, any of which is a cause for rejection. Any or all of them may be discovered by requiring the applicant to extend his arms above his head and cough; if there is a rupture at any of these points the bowel will protrude through the opening and present to the view of the observer a "bunch" or tumor; if the hand is now placed on this tumor and the applicant again required to cough, a distinct shock or impulse will be felt in the tumor, which will appear to swell and become tense. Steady pressure will in most cases cause the bowel to recede into the abdomen with a peculiar slip or gurgle, which is characteristic.

The seat of an inguinal hernia is in or above the crease between the abdomen and the thigh; of a scrotal hernia, in the scrotum above the testicle; of an umbilical hernia, at the "navel,"—this latter must not be confounded with a simple "pouting navel," from which it may be distinguished by its doughy, inelastic consistence and by the absence of an impulse on coughing.

*Fistula in Ano* and *Hemorrhoids* (piles) may be discovered by requiring the applicant to turn his back to the light, stoop well forward, and with both hands separate the buttocks widely; this exposes the anus. A *fistula* may be suspected if at the verge of the anus, or at any point within a radius of an inch thereof, a pimple is seen, in the centre of which is "*proud flesh*,"—and suspicion becomes almost certainty if the man admits having had at any time a "boil" in that locality. Under these circumstances he should be rejected.

*Hemorrhoids* (piles) are of two kinds, internal or bleeding, and external. The recruiting officer cannot discover the former, but may suspect their existence if there is a discharge



of matter or blood from the anus. If the applicant admits that he is the subject of this form of the disease he should be rejected.

*External piles* appear as tumors, or loose flabby folds of skin about the verge of the anus, and may be *recent* or *old*. If *recent*, they will appear about the size of a buck-shot, of a bluish color, hard and tense to the feel, and their covering will look thin; if *old*, they will probably be as large as a marble, of a brawny feel, reddish-brown color, and have a thick covering. If *recent*, as above described, they are *not* cause for rejection, *neither are they if old and single* and the applicant asserts that they have never been painful or troublesome; but if there should be *more than one old pile* and they are larger than described, or if a *single old pile* is ulcerated or inflamed, or if there is a small pile *associated with varicose veins of the legs*, the applicant should be rejected. The flabby folds of skin are not cause for rejection unless very large.

If the applicant is accepted, any blemish, no matter how slight, about this region, should be noted on his enlistment papers.

#### THE GENITAL AND URINARY ORGANS.

*Any acute disease of these organs should be a cause for rejection.*

A sore upon the head of the penis, the furrow immediately behind it, or on the foreskin, is in the vast majority of instances syphilitic, and while it is well known that there are two kinds of venereal sores, one innocent, so far as its effects upon the general system are concerned, and the other virulent, it is equally well known that it is not always possible to distinguish the one from the other; hence one may find that a so-called "innocent" sore is followed in due time by constitutional symptoms, or a supposed virulent sore is free from such results. This being the fact, the Government is entitled to

the benefit of the doubt, and these cases should be rejected. The same remarks apply to gonorrhœa. No physician can say positively that an attack of this disease will not be followed by a stricture of the urethra; it is the experience of the writer that stricture is far more frequently a sequence of gonorrhœa than even professional men generally admit, for which reason all cases of this disease should be rejected. Other acute diseases, such as swelled testicle, simple inflammation of the foreskin and head of penis (balanitis), etc., may or may not be of venereal origin, but it is safer to reject the man than to accept him and afterwards have him rejected at the second examination, or discharged the service at a subsequent date.

*Loss of the penis* is a cause of rejection.

*Phimosis*, "an elongation of the foreskin, with contraction of its orifice, preventing the foreskin from being drawn back so as to expose the head of the penis," when complete, is cause for rejection.

This condition, although apparently trivial, is occasionally the cause of serious disorder of the nervous system, as epilepsy, paralysis, etc.; it interferes with the free discharge of urine, and prevents a thorough cleansing of the parts from the natural secretions, the retention of which, acting as an irritant, sets up inflammation and unfits the soldier for the performance of duty.

*Warts* (venereal) are not unfrequently found upon the penis; their location is generally in the furrow, although they may be situated anywhere about the head and foreskin. As a rule they are innocent in character, are produced by uncleanness, and are *not* a cause for rejection.

*Epi- and Hypospadia*.—When the urethra terminates by an opening in the course of the penis either on the upper (epispadia) or under (hypospadia) surface, and at a distance nearer the body than one-fourth the length of that organ, *reject*.

*Stricture of the urethra* can be detected only from the confession of the man himself: if upon being questioned he admits an attack of gonorrhœa, and that he passes a stream of water which is crooked or twisted, or if, at the close of the act, the water dribbles from him, falling between his feet, or if the stream is small and passed with difficulty, there is good reason to suspect a stricture, and the applicant should be rejected.

*Loss of both testicles* by extirpation or disease, or marked dwindling (atrophy) of both, or special sensitiveness of either, rejects.

The absence of both testicles from their natural situation does not necessarily imply the *loss* of them from either of these causes, for they *may never have descended into the scrotum*. In this case the usual signs of virility will resolve the doubt. Moreover, if the organs have been extirpated by accident or design, the scar of the wound will reveal the fact. If they have disappeared from *atrophy*, some rudiment will still remain to show that they have descended.

If they are not in the scrotum, they are either still in the abdomen or are arrested in the groin, where they may be felt and possibly seen as tumors or lumps, and may be distinguished by the peculiarly sickening pain felt when they are vigorously squeezed between the fingers; if they occupy any portion of the groin, they incapacitate the man, from their liability to be followed by rupture, and particularly from their exposure to painful injury and to strangulation. This remark is also applicable to those cases in which only one testicle is present in the scrotum.

If *three* testicles are supposed to be in the scrotum, the applicant may be accepted, and the fact noted on his enlistment paper; the case being left to the decision of the surgeon at the depot whether the extra body is a testicle or not.

Any great *enlargement of the testicle*, especially if the organ is very hard and insensitive, is indicative of serious disease, and should be cause for rejection.

Caution is necessary in examining the testicle that the "epididymis" is not confused with some morbid growth; this body lies upon the upper and back part of the testicle, and may occasionally feel hard or swollen as a result of some former inflammation; indeed it may, under some circumstances, be taken for a varicocele; there is no disease to which it is subject, discoverable by a non-professional man, that would be cause for rejection.

*Accumulation of fluid in the scrotum* (hydrocele) may be discovered by the distention of the parts, and by the sensation of fluctuation given to the fingers by the contained fluid; it is a cause for rejection.

There may also be an accumulation of fluid in the *spermatic cord* (hydrocele of the cord), giving rise to a tumor situated *above* the testicle, between it and the groin, into which it often extends; this is cause for rejection.

*Varicocele* (by which is now understood the condition formerly known as "cirsocele") is an enlargement of the veins leading from the testicle, which have "a peculiar knotted and convoluted feel, and the sensation conveyed to the hand is often compared to that which would be given by a bunch of earth-worms."

When slight this is not a cause for rejection. Tripler gives the following as a safe rule: "If the testicle upon that side is atrophied (shrunk) whatever may be the volume of the cirsocele (varicocele), or if the volume of the latter exceeds that of the former, the recruit should be rejected."

A good position in which to obtain the best view of the scrotum is to require the applicant to advance one leg, carry the other as far back as possible, and then bend the advanced

leg at the knee: the presence of varicocele can, however, be determined *only by handling the parts*.

### THE BACK.

*Curvature of the spine*, with round shoulders. To detect curvature of the spine, draw an imaginary line from the centre of the base of the skull to the end of the spine. If it passes *one inch* either side of the spinal prominences, reject. (Parker.)

*Arching of the back*, with flattening of the front part of the chest, are disqualifications when they exist to such a degree as to impede respiration or to interfere with the action of the heart, as also is *wry neck*, an affection in which the head, twisted to one side, cannot be brought back to its natural position.

The recruiting officer cannot of course discover whether these blemishes interfere with the functions of the lungs or heart, but he can see if they are very much pronounced, and reject; or if he is in doubt, note the facts on the enlistment papers, and let the surgeon at the depot decide the question.

Men frequently present themselves for inspection with shoulders of unequal height. This is generally the result of habit, and of no consequence, unless connected with true curvature of the spine. The degree of this curvature, where it exists will determine the eligibility of the recruit. Whenever shoulders of unequal height are seen, attention should of course be directed to the spinal column.

### AFFECTIONS OF THE EXTREMITIES.

It is a matter of primary importance that the soldier should have the perfect use of all his limbs, and that the completeness and integrity of these organs should be in nowise impaired. A careful inspection of the limbs, even to the most minute detail, will never be neglected by the officer who feels a proper interest in the good of the service or in his own reputation. It is neces-

sary not only to put the man through the prescribed motions, but also to *handle* every important joint, or the officer may be deceived.

Many of the lesions and deformities of the limbs that disqualify a recruit are *common* to both the upper and lower extremities; others are peculiar to the one or the other.

The COMMON LESIONS are *chronic rheumatism*, with swelling and stiffness of the joints or the neighboring tissues, causing any impediment to the performance of the normal motions.

*Wasting of a limb from any cause.*

*Old dislocations*, if attended by any impairment of motion or distortion of the joint.

The shoulder, elbow, and wrist joints are the most common sites for these injuries.

The applicant for enlistment will of course put the best face on the results of these cases, and stoutly assert that the joint is as good as ever; but he should in all cases be tried with a rifle, to see if he can perform quickly and easily the various motions required in the manual of arms and in the "set-up" drill. Even if motion is perfect, it is doubtful policy to enlist a man who has any amount of distortion from a dislocated joint, because he has enough of a visible defect, upon which, at any time, to hang an excuse for a discharge, if from any cause the service becomes irksome to him. Fortunately, badly damaged joints are easily discovered, and the safest plan in such cases is to reject, even if the distortion or loss of motion be never so slight.

The same general remarks will apply to *important fractures*, especially if they have been in the neighborhood of joints; if followed by wasting of the limb or paralysis, there can be no doubt about the necessity for rejection.

*Severe sprains.*

*Voluntary or involuntary dislocation of joints.*

*Defective or excessive curvature of the limbs.*

*Complete or partial stiffness of any joint.*



*Weakness, difficult or total, and incurable loss of motion of a limb.*

*Extensive, deep, or adherent scars, where they interfere with the motion of a limb.*

*Loss of a limb, or an essential part thereof.*

*Contractions or permanent flexions of a limb or a portion thereof are all causes for rejection.*

#### SPECIAL LESIONS OF THE UPPER EXTREMITIES.

*Fractures of the collar bone, where there is much deformity, or if the seat of the fracture is near the outer extremity of the bone.*

*The fingers adherent or united.*

*Permanent flexion or extension of one or more fingers, as well as irremediable loss of motion of these parts.*

*Total loss of left thumb.*

*Mutilation of right thumb to such an extent as to produce material loss of flexion or strength of the member: the common distortion of the extremity due to contusion or felon need not disqualify.*

*Total loss of the index finger of the right hand.*

*Loss of the first and second joints of all of the fingers of the right hand.*

The joints of fingers and toes are counted from the end backward.

*Total loss of any two fingers of the same hand.*

*Mutilation of the last joints of all the fingers of either hand.*

All these defects constitute absolute cases of exclusion from the military service.

We frequently meet with permanent partial flexion of the *little finger* of one or both hands, due to the effect of some particular varieties of labor. These flexions do not disqualify, as they in nowise interfere with the prompt and effective handling of arms. The permanent flexion of any other finger does, and should exclude from service.

Redundant fingers are not always objections to a recruit. If the redundant finger is upon the outer border of the hand it is not usually in the way, and particularly if it be the left hand. We think, unless this appendage were more developed than we have ever seen it, we should not regard it in the inspection of a recruit.

#### SPECIAL LESIONS OF THE INFERIOR EXTREMITIES.

*Varicose veins, i. e., swollen or enlarged veins.*

It is a rare thing to find a young man with varicose veins to a degree sufficient to attract attention. Men of thirty and thence on to the limit of eligibility more frequently present them; but even in these cases they are usually a sign rather of intemperate habits, or feebleness of constitution, than the result of mechanical causes. Generally, they should direct attention to the investigation of the former, and if the result of this investigation be satisfactory any *moderate* prominence of the veins need not be regarded.

But it must be borne in mind that the tendency of this affection is to become aggravated, particularly in tall men, and upon long marches with knapsacks and arms.

The character, then, of the veins should be well noted. Sometimes the minute superficial branches only are enlarged and of themselves are of no consequence; but when clusters of knots are seen, or one or more single knots, large and with thin walls, or a net-work of enlarged branches about the ankle, the back of the foot, the calf of the leg, the ham or thigh, the man should be rejected. In *all* cases when there is chronic tumefaction, dropsy of the limbs, or marks of ulceration, rejection is demanded.

*Lameness*, perceptible limping, to whatever cause it may be due, demands the rejection of a recruit.



*Knock-knees.*

This deformity sometimes, though rarely, is carried to such an excess as to unfit a man for military service. In these cases it is impossible for the man to take the position of a soldier and he is mechanically disabled from performing a long march. We would say, *generally*, that if a recruit cannot bring the inner borders of the feet, from the heel to the ball of the great toe, within *three inches* of each other without passing the inner surface of the knees respectively in front of and behind each other, he is unfit for service.

*Club-feet* are always positive disqualifications.

*Splay-feet.*

The foot that renders a man unfit for service is that in which the arch is so far effaced that the entire inner border of the foot rests upon the ground; the inner ankle is very prominent, as is also the bone of the foot articulating with it, and the axis of the leg does not fall upon the centre of the foot—giving the effect that the ankle-joint has been dislocated and the foot crushed down and outward.

*All the toes joined together, the toes double or branching.*

*The great toe crossing the other toes, with great prominence of the second joint of the great toe (bunion).*

*Over-riding or super-position of any or all the toes to an extreme degree.*

*Loss of a great toe.*

*Loss of any two toes from the same foot.*

*Permanent flexion of the last joint of one of the toes* so that the free border of the nail bears upon the ground; or flexions at a right angle of the last joint of a toe (usually the second toe) upon the second, with stiffness of the joint.

*Ingrowing nail of the great toe*, usually upon the inner side, if deep and accompanied with signs of inflammation or ulceration.

*Corns on the sole of the foot*, especially if situated on the under side of the "ball" or base of the great toe.

*Stinking feet.*

These are all objections to a recruit and are too frequently neglected.

They invariably cause lameness upon a march, and often disqualify a man from undergoing the drills necessary for his instruction.

When a man walks upon the nail, as it is termed, during a march, sand and other foreign bodies find their way between the nail and the skin, producing severe pain and irritation; and even if this is escaped, the constant pressure upon the free border of the nail is felt throughout its whole surface of adhesion, and develops there, and sometimes in the root of the nail, insupportable pain and inflammation. In the case of stiff joints, the constant friction of the shoe upon a march soon obliges the man to give up and take to the wagons. Men with such infirmities are of no use whatever as soldiers.

#### FEEBLENESS OF CONSTITUTION—(POOR PHYSIQUE).

It is impossible, in our opinion, to convey the idea we wish to express in any other language. There is *no* disease—to all appearance there is nothing more than defective development of organization.

We frequently see men whose constitutions may or may not have been originally feeble, but who, from unfavorable hygienic circumstances, have aggravated or acquired this *feebleness, debility, or general unfitness*. There is partial or general emaciation, mental sluggishness, a listless air, a torpor of all the faculties, absence of activity, indifference to all their surroundings. Too lazy or too feeble to work, they seek the service as an asylum only, without the least notion of ever performing their duties. Such men are cases for absolute rejection.

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# HEADQUARTERS OF THE ARMY,

ADJUTANT GENERAL'S OFFICE,

Washington, June 7, 1887.

[Circular.]

## *Addenda to the Epitome of Tripler's Manual.*

The attention of recruiting officers is called to the following, in connection with paragraphs 1, 2, and 3, page 10, *Epitome of Tripler's Manual*, as important conditions to be considered in determining the *maturity* as well as the *majority* of applicants for enlistment:

1. Observe the proportions of age, height, weight, &c., as given further on.

2. *At twenty-one years of age* the wisdom-teeth are usually cut, and on each side of both jaws there should be found five grinders, viz., three large double or molar teeth and two smaller double or bicuspid teeth. In case of the loss of teeth the spaces originally occupied by them may be seen.

*Under twenty-one years of age* the wisdom-teeth are seldom to be found, and there will, therefore, be but four grinders on each side of both jaws, viz., two molars and two bicuspids.

3. *At maturity* there should be some beard upon the face and hair under the arms, a full growth around and above the genital organs, and some scattered hairs in the neighborhood of the anus. The hair of the body is generally fine and silky.

*After maturity* the hair is thick and coarse in the various places mentioned.

4. *After maturity* the skin of the scrotum is somewhat darker in color than the surrounding parts, is opaque, and is marked in various directions by wrinkles or folds.

*Before maturity* this skin retains the soft, velvety condition of youth, its pink or fresh flesh color, and is more or less translucent, while the wrinkles or folds are not well pronounced, or entirely absent, particularly at the sides. *This condition of the scrotum is the most valuable of the signs of maturity.*

The following alterations and additions are made in paragraphs 4, 5, and 6 of the same page (10); in the section, on page 14, headed "The chest *should be ample*;" and in the section, on page 26, headed "The ears:"

Page 10, paragraph 4. After "five feet ten inches" add "that for infantry and artillery is governed by the maximum of weight, to which should be applied the rule for proportion in height."

Paragraph 5. Strike out the whole paragraph and substitute the following: "The *minimum weight* for all recruits is 128 pounds; the *maximum* for infantry and artillery is 190 pounds; for cavalry and light artillery, 165 pounds."

Paragraph 6. Add at end of paragraph:

These standards are based upon results obtained by skilled observers who, after careful study and the examination of large numbers of men in civil and military life, have established the fact that there is an *average proportion* in healthy, fully developed men, between the height, weight, chest measurement, and chest mobility, which will admit of slight variations without indicating a departure from health. The rules of this proportion may be formulated as follows:

For each inch of height from 5 feet 4 inches to 5 feet 7 inches, inclusive, there should be calculated 2 pounds of weight; there should be a minimum "chest measurement" of 34 inches, and a minimum "chest mobility" of 2 inches.

*It must be clearly understood that by "chest measurement" is meant the mean of the measures of chest circumference during expiration and inspiration.*

When the height *exceeds* 5 feet 7 inches, calculate 2 pounds of weight for the *whole number* of inches of height; add to this product 5 pounds of weight for each inch of difference between 5 feet 7 inches and the actual height; the sum will be the normal weight in pounds.

For each inch of height above 5 feet 7 inches one-half an inch should be added to the minimum "chest measurement;" the minimum "chest mobility" should be  $2\frac{1}{2}$  inches.

The following table shows this concisely:

Height.	Allow for each inch of height.	Minimum chest measurement.	Minimum chest mobility.
5 ft. 4 to 5 ft. 7	2 lbs	34 inches	2 inches.
5 ft. 7 to —	2 lbs., and 5 lbs. additional for each inch over 5 ft. 7 in.	34 inches, and add $\frac{1}{4}$ inch for each inch over 5 ft. 7 in.	$2\frac{1}{2}$ inches.

For example: A man who measures 5 feet 4 inches should weigh 128 pounds, *i. e.*, 5 feet 4 inches=64 inches;  $64 \times 2=128$ , the normal weight; he should have a "chest measurement" of 34 inches, *i. e.*,

circumferential measures at inspiration and expiration being, respectively, 35 and 33 inches, the mean would be 34 inches:  $35 + 33 = 68 : 68 \div 2 = 34$ , the mean; the chest mobility is 2 inches.

A man who measures 5 feet 9 inches should weigh 148 pounds, *i. e.*, 5 feet 9 inches = 69 inches:  $69 \times 2 = 138$ : difference between 5 feet 9 inches and 5 feet 7 inches is 2:  $2 \times 5 = 10$ :  $138 + 10 = 148$ , the normal weight in pounds; he should have a chest measurement of 35 inches and a chest mobility of at least  $2\frac{1}{2}$  inches.

It is not necessary that the applicant should conform *exactly* to the weights indicated in the rules, a variation of a few pounds from either side of the standard being permissible in the minimum, medium, and maximum weights, if the applicant is otherwise in good health and desirable as a recruit. The rules are given in order to show what is regarded as a fair proportion; *but the minimum weight must be at least 125 pounds*, except when less is especially authorized by the superintendent.

In such cases the recruiting officer's reasons, and the superintendent's order, should be noted in full on the enlistment papers. Any *considerable* disproportion, however, of *height* over *weight* is cause for rejection. For a marked disproportion of *weight* over *height* do *not* reject, unless the applicant is positively obese.

In order that an intelligent application of these rules and their variations may be made, the attention of recruiting officers is called to the manner in which a man's height is made up.

The chest, containing the heart and lungs, is the most important division of the body. It contains the vital machinery and represents the *staying power* of the man; it must, therefore, be ample. The function of the legs is to transport the body; they should be well formed and sufficient, but not unduly long, for length of limb at the expense of the chest is a disadvantage. A long-legged, long-necked man, with a short chest, is objectionable as a recruit.

The average height of a youth of 18 years of age, a "growing lad," is a little over 5 feet 4 inches, and increases gradually until he reaches the age of 25 years—the stage of physical maturity or manhood—when his average height is between 5 feet 7 inches and 5 feet 8 inches.

During the growing period the frame-work and vital organs receive their proper development, and considerable departures from the given average of proportionate height to weight indicate an impairment of these organs which may, and probably will, develop

into positive disease after exposure to the hardships incident to the life of a soldier; hence they are of greater significance in men of these heights than in taller men, who are, presumably, of greater age and more mature growth.

After 25 years of age, the body being fully developed, the excess of nutritive material over and above that required for its maintenance in health is deposited in the tissues as fat, and it will be found that a disproportion of weight over height occurs usually in adults, or men in middle life. It is rare to meet, in the recruiting rendezvous, with *very* fleshy *young* men.

The following table is given for convenience of reference:

*Table of physical proportions for height, weight, and chest measurement.*

Height.		Weight.	Chest measurement.	
Feet.	Inches.	Pounds.	Mean (inches).	Mobility (inches).
5	4	128	34	2
5	5	130	34	2
5	6	132	34	2
5	7	134	34	2
5	8	141	34½	2½
5	9	148	35	2½
5	10	155	35½	2½
5	11	162	36	2½
6	--	169	36½	2½
6	1	176	37	2½
6	2	183	37½	2½
6	3	190	38	2½

Page 14. "*The chest should be ample,*" paragraph 1. Omit all after the word "inches," and all of paragraph 2, substituting the following:

In taking this measure contortions of the body, such as bending backward to "throw out" the chest or bending forward to "draw it in," should be avoided.

The applicant should stand erect, without muscular strain or rigidity; after the tape is placed in position and lies snugly and evenly upon the skin, and while the loose ends are held between the fingers of the examiner so that when the chest is expanded the tape will run readily through them, the applicant should be directed to *draw in slowly and steadily a long breath*, until his chest is inflated to its utmost capacity, when the record of *chest circumference*

*at inspiration* should be read from the tape. He is then to expel the air from his chest, by counting slowly and steadily from one onward, until he can no longer resist the urgent demand for inspiration, when the record of *chest circumference at expiration* should be read. This should be repeated several times to insure accuracy.

A man whose chest *measures less than 32 inches in circumference at expiration* should be rejected.

On page 26, strike out the paragraphs following "Deafness of either ear constitutes an absolute cause of rejection," and substitute:

As the distance at which the natural tone of voice may be heard in a closed room, when both ears are normal, is about 50 feet, the distance at which the applicant is to stand from the examiner must be as great as the apartments will allow, not to exceed 50 feet.

The applicant will stand with his back to the examiner, who is to address him in a natural tone of voice. When the distance is less than 40 feet, it should be specified on the examination form, and the tone of voice will be lowered. Failure of the applicant to respond to the address of the examiner will demonstrate a defect.

The personal attention of the recruiting officer or sergeant must be given to closing the entrance to each ear separately, by pressing with the thumb the small lobe (tragus) situated in front of the opening to the inner ear.

Advantage should be taken of the absence of other sounds to make the examination. Recruiting officers should remember that a man may be totally deaf in one ear, and yet may hear all ordinary conversation perfectly if the sound ear is not completely stopped. Deafness of one ear is a bar to enlistment, but in ordinary occupations it might not be observed.

Deafness may be caused by an accumulation of hardened wax, therefore an otherwise desirable recruit should have his ears well cleansed before final action is taken in his case.

The test established by General Orders, No. 82, of August 13, 1879, from this office, for determining normal acuteness of vision in applicants for enlistment, having been found to admit men unable to qualify as marksmen by reason of defective eye-sight, has been discontinued, and the following rules will govern the examination of recruits in this particular and take the place of the directions

contained in the paragraphs headed "The eyes," on pages 27 and 28 of the Epitome, which follow the word "bloodshot," page 27:

*Myopia* (near-sightedness).

*Hypermetropia* (over-sightedness), except when moderate and free from organic disease.

*Astigmatism.*

*Inability to read or describe* WITH FACILITY *the types or characters on the test-cards.* This examination requires the greatest care and patience on the part of the recruiting officer; it is made with cards bearing the twenty feet test-types and test-characters.

To use the cards, measure off a distance of twenty feet in a straight line; place the applicant with his back to the light at one end of the line, while the examiner stands at the other and holds the card exhibiting the test types or characters in full view of the applicant and so that a good light falls on the card. Each eye should be examined separately, one being covered with a card (not with the hand) by an assistant who, standing behind the applicant, directs him to read the types on the card held by the examiner; if he cannot read, the card bearing the characters is presented to him, which he is directed to describe. The types should be read first from left to right and then from right to left; the characters should be described as to the number of arms seen on each and the direction in which they are pointed, whether upward or downward, to the right or left.

If the applicant should be unable to read the test-types or describe the test-characters correctly with either eye, he must be rejected.

BY COMMAND OF LIEUTENANT GENERAL SHERIDAN:

R. C. DRUM,

*Adjutant General.*

OFFICIAL:

*Assistant Adjutant General.*



GENERAL ORDERS, } No. 39.	HEADQUARTERS OF THE ARMY, ADJUTANT GENERAL'S OFFICE, Washington, June 7, 1887.
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By direction of the Secretary of War paragraph 786 of the Regulations is amended to read as follows:

786. In accepting recruits at rendezvous, Greenleaf's Epitome of Tripler's Manual gives the required standard of qualifications, and is also the standard for inspection after the recruits arrive at the depot; except that the following instructions will govern in examining the eye and ear:

1. No recruit shall be enlisted who cannot see well, at six hundred yards distance, a black center three feet in diameter on a white ground. The test will be made by means of cards bearing the twenty feet test-types and test-characters of Snellen, which will be supplied by the Surgeon General; the types to be used for men who can read and the characters for those who cannot read.

After arrival at the depot, the medical officer shall make further examination of the recruit with the charts, glasses, and other visual tests furnished him, with the view of determining the existence of *astigmatism* or other defects of vision which have not been discovered at rendezvous, and any defect which would disqualify the recruit for rifle service is cause for rejection.

2. Recruits will also be examined for *color-blindness*. Any defect observed will be noted on the descriptive list of the soldier, but will not of itself constitute a cause of rejection, except in the case of enlistments for the Signal Corps. The examination for this defect will be made by the method of Holmgren. Test-wools for the purpose, accompanied with printed directions for their use, will be issued to the principal recruiting depots by the Surgeon General.

3. All men enlisted for the artillery arm of the service at a military post, or assigned to that arm from a depot, shall, before such enlistment or assignment, besides undergoing the ordinary examination, be examined especially with a view to establishing the fact of the patency of the Eustachian tubes and the integrity of the tympanic membranes, in default of which the men are unfit for that arm.

BY COMMAND OF LIEUTENANT GENERAL SHERIDAN:

R. C. DRUM,

OFFICIAL:

*Adjutant General.*

*Assistant Adjutant General.*









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